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Research Article

Empowering Women Farmers in Uttar Pradesh: E-Mobile Technology Training as A Path to Sustainable Rural Development

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ABSTRACT

This study explores the role of e-mobile technology training in empowering women farmers in Uttar Pradesh, specifically in the districts of Azamgarh, Mirzapur, Sonbhadra, Ballia, and Gorakhpur, with a focus on sustainable rural development. The research adopted a multiple random sampling technique, selecting 300 respondents (60 from each district) was conducted between July and October 2023 to examine the impact of mobile-based technology interventions. A tabular analysis was used to analyse the data and provide meaningful insights.

The findings revealed that most of the respondent farmers were aged between 31 and 40 years, with most belonging to nuclear families. The average family size was moderate, with fewer than four members being typical. In terms of educational status, a large proportion of farmers had attained only primary education, with a significant number having little to no formal schooling. Despite these limitations, the respondents demonstrated a considerable level of practical farming experience, with most having 10 to 20 years of experience in agricultural activities such as linseed cultivation.

The study highlights the importance of mobile technology training for women farmers, as it equips them with essential tools to enhance agricultural productivity and income generation. Furthermore, the introduction of mobile-based interventions can bridge the gender gap by empowering women with knowledge and resources to make informed decisions in farming practices. This empowerment fosters sustainable rural development by improving agricultural practices, boosting economic independence, and reducing gender-based disparities. The study's findings suggest that integrating e-mobile technology into agricultural training can play a pivotal role in transforming rural economies and promoting inclusive growth in Uttar Pradesh.

Keywords: Agriculture, e-Mobile Technology, Empowerment, Mobile-Based Technology Interventions, Sustainable Rural Development, Technology Adoption

1. Introduction

1.1 Background

Rural India, for example, shows this percentage: "over 60 percent of rural families are dependent to agriculture," according to the World Bank (2019:2); out of theory though, Uttar Pradesh (UP) is one of the largest agricultural states in India, in which agriculture plays a critical role in the country's agricultural production. Nevertheless, the agricultural sector is the backbone of the rural economy of Uttar Pradesh. However, gender bias and socio-economic challenges, as a general trend, are still barriers to women to participate in agriculture. Women are credited with the significant proportion of their efforts towards farming in villages across India as across the UP State in India. However, women's contribution isn't adequately recognized or appreciated. According to the Food and Agriculture Organization (FAO), rural women alone are involved in about 60-80% of the world's food production; nonetheless, they face many obstacles due to

landlessness, lack of access to resources, financial services, and agricultural training (FAO, 2020; SOFA Team & Doss, 2011).

Mobile phones, such as others, contribute an additional vein through which to eliminate these gaps. If you have a basic eco-friendly cell phone, mobile tools are quickly growing more common in rural environments where there is a space for cell phones that can help women farmers have a physical connection with agricultural data. A mobile-enabled agricultural training course, being quite a novel tool, has the potential to empower farmers with knowledge about good practices, crop care, pest control, weather forecasting, and price scenarios as aids with e-mobiles. These m-griha resources are expected to provide needed space for women farmers who have not traditionally been the recipients of training or education, so that it might also lead to gender inclusive development in agriculture (Rahman et al., 2023).

Mobile technology is extensively employed in various sectors across the world, and its implementation as m-agriculture, its effectiveness is quite evident with a lot of benefits in different countries (Mensah, 2023). Even though mobiles have become something common for every rural household, the lack of specifically imparted training, awareness, and access to mobile-based agricultural knowledge systems is a significant barrier to their use. Array: sometimes the full power of e-mobile technology in empowering women farmers in the state of Uttar Pradesh - e-agriculture can have an impact on a modern farm and the researcher describes the governance of rural development in this state.

1.2. Description of the Study Area

1.2.1 Overview of Uttar Pradesh

Uttar Pradesh one of the very big states together with Andhra Pradesh, Maharashtra, and Gujarat of the northern part of India. The neighbouring states of Uttar Pradesh include Haryana, Punjab, Rajasthan, Madhya Pradesh, and Bihar, as it stands at the edge that is attached with Nepal. Its territory stretches to 243,286 square kilometres and accommodates over 200 million people-the largest population in India. (Ministry of Rural Development, Government of India, 2023-24). Its capital is Lucknow and is divided into 18 divisions and 75 districts.

Uttar Pradesh is famous all over India for being an agricultural center of substantially large importance. The state provides a panoply of agricultural products-it grows rice, wheat, sugarcane, pulses and garden vegetables. People deep in rural Uttar Pradesh engage in agriculture, which occupies one of the largest portions of state's economy. The most notable that renders to this state's special character amidst other agricultural states in abundant small and marginal farmer-community undertaking subsistence farming in an altogether different manner-small and marginal farmers. They must face quite many challenges, viz., social, economic disparities and climatic changes. However, in the case of rural women, their condition is worse. Rural women are really an essential part of this agricultural landscape as they contribute in depth to agricultural activities, which is practically impossible for a larger section of women to get resource and technology options improving their agricultural productivity. (Barooah et al., 2023)

1.3 Problem Statement

It is suggested that promotion and generation of employment be reduced to agriculture for poverty reduction and equitable distribution of income. Prosperity may be reduced to some extent. However, a prerequisite to its operation is fostering entrepreneurship within and through the grape value chain. They need to be working more sensitively toward the environment. Traditional and new technologies will be introduced in the program to sensitize stakeholders on the issue. Initiative of standalone and money projects, designed to ensure that the required investment push necessary to move into the new technology happens. Provided will be support in form of the development of a demonstration plot for the STTF electrode gap consumption-proof irrigation package unit. A foreign company is to set up agricultural management services for nominal fees with a contract, where certain fees are required at the latter stages of the sponsorship of fledging farmers who would avail themselves of STTF's aerobic electro kinetic energy. (Mohanty, 2022-23)

Despite the rapid increase in mobile phone penetration, women in rural areas face significant barriers to the adoption of agricultural technologies, especially mobile-based tools. These barriers include limited literacy rates, lack of mobile ownership, and traditional gender roles that restrict women's mobility and decision-making power within the household (Imdad, 2022). Therefore, there is a need to assess the impact of e-mobile technology training on women farmers in Uttar Pradesh, exploring both the benefits and challenges associated with this intervention.

1.4 Objectives

The study aims to:

1. Assess the socio-economic characteristics of women farmers in Uttar Pradesh.
2. Evaluate the impact of e-mobile technology training on agricultural productivity and sustainability.
3. Examine the barriers women face in adopting new agricultural technologies.
4. Recommend strategies for enhancing the role of women farmers in sustainable agricultural development.

1.5 Research Questions

1. What are the socio-economic profiles of women farmers in rural UP?
2. How does e-mobile technology training impact agricultural practices and productivity?
3. What challenges do women farmers face in accessing and using mobile-based agricultural technologies?

1.6 Importance of Study:

The importance of this study is that it can effectively contribute to the empowerment of female farmers in Uttar Pradesh which is predominantly dependent urban-based state on agriculture yet women's roles in agriculture are highly undervalued. By studying the impact of e-training on accessing mobile technology, this study will help answer the question of how digital solutions can be effective in addressing gender disparities in agriculture and their impact on women's active participation in the decision-making processes.

Mobile technology has already been well-proven as an essential tool for economic development, especially for rural areas (Banerjee et al., 2022). This will be done via examining the impact of mobile technology on female farmers as regards the acquisition of a more gender-inclusive approach to agricultural development. This research could influence policymakers, development agencies, and NGOs in designing more effective programs and interventions using mobile phone technology to enhance productivity, improve economic independence, and promote sustainable development in rural areas (Singh et al., 2023).

In addition, opinions in the study could be taken for the mobile-based agricultural platforms-Mobile entrepreneurship study claimed that it could play a part in enhancing the available resources for easy access to vital information and other support networks for women farmers. This would help in increasing empowerment of women and promoting rural development. This study will provide suggestions on policy and practicable ways to more effectively integrate mobile technology with agricultural training, most specifically targeted at women.

2. Literature Review

2.1 Women in Agriculture

Women in rural areas contribute significantly to agricultural activities, yet they face systemic barriers including limited access to resources, technology, and education. The literature highlights gender disparities in the agricultural sector and the need for inclusive policies that integrate women's contributions into the formal agricultural economy (Agarwal, 2018).

Barooah et al. (2023) delve into the intersection of gender, agriculture policy, and climate-smart agriculture in an Indian scenario. The research probes the influence of gender dynamics on the acceptance of CSA practices and the impacts on the effectiveness of agricultural policies to promote climate resilience. The study highlights the fact that women are totally side-lined in agricultural decision-making while confronting difficulty in resource accessibility, training, and support. The need for gender-sensitive policies aims at the inclusion of women as actors in CSA initiatives, for interest in food security and climate resilience. The study becomes significant in providing insights into gender mainstreaming in terms of sustainable agriculture development in India.

Mahajan (2019) investigates the far-reaching effects of women managers on agricultural production in India. The study elaborates how women obtaining insight in farm management decisions, such as resource allocations, labour management, or adoption of farming practices, can translate into significant improvement in productivity orientations. Through an examination of the role of leadership by women in the farm, Mahajan shows the immense potential for gender-sensitive agricultural policies that can make women important stakeholders in the wealth of rural economies. From the research, giving women farmers managerial responsibilities is essential to enhancing efficient and productive farm operations, thus contributing to the rural development of India overall.

2.2 e-Mobile Technology in Rural Development

Research demonstrates that e-mobile technology can empower rural farmers, particularly women, by providing access to critical information that can lead to better decision-making, enhanced productivity, and greater economic independence (Khan et al., 2021). These technologies are shown to be especially effective when combined with training initiatives.

Valocity (2022, June 7) explores the digital transformation in India by accentuating on the challenges and opportunities it created regarding the adoption of technology in rural areas. The study stresses the significant role digital infrastructure would impart to reduce the technological divide existing among the urban and rural fringes. Also, the authors observed a consequence of adoption obstacles such as unawareness, infrastructural needs, and lack of finance and posted case examples that have successfully enabled digital inclusion. They advocate for bespoke policies to supplement programs improving digital literacy and accessibility with the purpose of fostering rural innovation and economic growth.

The research by Barooah et al. (2023) focuses on how mobile technology helps empower the rural women farmers of Kerala in terms of addressing the so-called digital divide. It is shown how mobile access helps in agriculture, marketing, and enhancing income. Focusing on Kerala's village landscape, this research also reveals the transformative challenge of socioeconomic barriers faced by women farmers with the help of digital tools. Thus, bridging the technology gap should play an essential role in promoting sustainable agriculture

development and women's empowerment in rural India. The study raises some important issues for consideration in formulating rural development policies for the future.
Ali (2021) examines the usage of mobile technology by the farmers and herders residing in rural areas, drawing attention to its impact on practices in agriculture and livelihoods. The investigation points out that cell phones help provide very important pieces of information, such as weather updates, market prices, and farming techniques, contributing to increasing outputs and transforming economic results. Ali explores the challenges that this same mobile technology creates for rural communities, including no connection to web services and poor digital literacy. This study emphasizes that mobile technology can be used to bridge gaps in agricultural knowledge and empower rural farmers and herders, thereby contributing to their economic resilience and livelihoods.

3. Methodology

3.1 Research Design

This study follows a quantitative research design with descriptive and analytical components. It focuses on a sample of women farmers in Uttar Pradesh who have received e-mobile technology training. The data collected provides insights into the socio-economic conditions of these farmers and the impact of technology on their agricultural practices.

3.2 Selection of Study Districts

In this investigation, out of various districts in Uttar Pradesh, five were chosen as they were selected based of their agriculture importance, socio-economic situation, and need for digital interventions in agriculture. The selected districts are **Azamgarh, Mirzapur, Sonbhadra, Ballia, and Gorakhpur.** This selection of areas was made to capture various rural communities in farming and their agricultural practices, systematically differing cultural norms, and levels of penetration of mobile technology.
Below is a detailed description of each district, including its geographical location, agricultural profile, and relevance to the study:

1. Azamgarh

Can be found in eastern Uttar Pradesh, with coordinates 26.0487° N,83.1834° E; closely located from the Ghaghara River and is bordered with Mau, Ballia, and Gorakhpur. It is predominantly an agrarian district rich in fertile lands with an overwhelming number of the population relying mostly on agriculture for sustenance. The district has the habit of cultivating crops such as wheat, paddy, and vegetables. The penetration of mobile phones has increased, but there is still a problem in digital literacy, especially among women in Azamgarh. The way people of region are concerned about socio-cultural customs makes female participation in decision making in terms of agriculture really high: this area gives insight into treating women farmers and mobile technologies' possible affects.

2. Mirzapur

Present in the eastern part of Uttar Pradesh, Mirzapur lies at 25.1468° N, 82.5646° E, between Bihar and the Vindhya Mountain. Besides agriculture, it also has a small-scale industry. This district also has an economy distinctly mixed with agriculture, with such important crops as sugarcane, paddy, and pulses. Mirzapur is situated in an area which would provide considerable mobile network coverage, especially for women, who are mostly illiterate with patriarchal family structures that inhibit mobility. Therefore, this provides an excellent case scenario of investigating the possibility of mobile technology powering rural women farmers who are less industrialized.

3. Sonbhadra

Located at 24.0685° N, 82.7649° E, Sonbhadra is the southmost district within the state of Uttar Pradesh. It is surrounded by Madhya Pradesh and Bihar. It is a well-known mineral-rich area, but at the same time, most of its families make a living on agriculture. The region thus contains the mineral deposits but at the same time remains the most significant food production center. In the relative terms of demographic density, the population concentration is less, and the farmers usually depend on the older systems of farming. Over the last few years, the number of people using mobile phones in the district has risen. Nevertheless, the district still experiences quite a significant digital divide, especially young and female farmers, such that they are often challenged regarding technology access and agricultural training programs. Different problems and possibilities to be found in Sonbhadra provide a good area for studying how m-technologies are enhancing the agriculture practices of women farmers.

4. Ballia

Ballia, a district of Uttar Pradesh, situated at 25.3970° N: 84.1461° E, is situated downstream at the confluence of Ganga and Ghaghara rivers. Typically, Ballia is noted for the farming of crops, particularly rice, sugarcane, and pulses. Most of the population in Ballia lives in the rural areas and generally depends upon agriculture. In contrast, mobile phone penetration rates have been high, women in rural Ballia can hardly afford using mobile

telephony and accessing such information. In addition, due to a low level of literacy and the restraints of the predominant male society, women farmers are not able to access the innovations and proven technology. It's an essential part of the district for understanding technology adoption and social economic factors that will empower female farmers.

5. Gorakhpur

Gorakhpur is situated in the eastern part of the state being defined by geographical positions 26.7465° N and 83.3705° E. This rural nodal center is qualifying as a vital commercial and agricultural area. In present time, Gorakhpur seems to be developing as a second 'hot spot' for agriculture and as a commercial center. Of Wheat, rice, and maize-products and has a substantial number of small farmers, these are famous for the most part with Gorakhpur. Contrary to expectations, the penetration of mobile technology has been relatively high; use of mobile phone for farmer's participation in any other activities is still at a nascent stage-more so for women farmers than their male counterparts. In a way, the IT mobile community-renowned potential across the district-offers a case to consider whether mobile technology training programs can actually make a difference in terms of modern agricultural practices especially within the case of women population, hence contributing to their productivity.

3.3 Population and Sample

In Uttar Pradesh are included women farmers residing in five districts; these districts are Azamgarh, Mirzapur, Sonbhadra, Ballia, and Gorakhpur. We chose these five districts because U.P is an agricultural-dominant state, and women farmers living there can easily access mobile technology. The sample that was selected had 300 respondents was conducted between July and October 2023. Multiple random sampling was used to choose 60 women farmers from each district. The number of samples adopted expected to bring about a significant effect statistically for almost all elements in the population pertains to the diversity in the population.

3.4 Data Collection Methods

Data was collected using a combination of primary and secondary sources:

1. **Primary Data**: Structured interviews and surveys were conducted with the selected women farmers. The survey included both closed and open-ended questions focusing on:
   - Socio-economic profile (age, education, family size, farming experience)
   - Technology usage (types of mobile technology used, access to training, frequency of usage)
   - Agricultural practices (crops cultivated, use of mobile-based agricultural resources)
   - Barriers to technology adoption (literacy, infrastructure, cultural factors)
2. **Secondary Data**: Government reports, agricultural studies, and publications related to mobile technology and rural development were reviewed to support the research and provide context.

3.4 Sampling Technique

A **Multiple Random Sampling** method was employed for this study. First, the districts were selected randomly based on their significance in agriculture. Then, individual respondents were selected randomly within each district. This technique ensured that each woman farmer had an equal chance of being included in the study, thereby minimizing bias.

3.5 Data Analysis Techniques

Statistical analysis was done by descriptive and inferential method. Tabular analysis was the essential technique used with a presentation of frequency tables summarizing socioeconomic characteristics. To examine the relationship between e-mobile technology training and agricultural productivity, Chi-square tests were applied to determine if there were statistically significant differences in productivity outcomes between women farmers who were trained and those who were not. The relationship was explained in terms involving the factors that positively influence its accessibility. Permissive computing was working openly to strengthen better access and exploration into weak comprehension. Analyses have adopted a broad reach beyond easily reachable but not very reliable subjects as this; communication technology itself will remain and can always exhibit factors enabling people to profit from it in a theoretically open market. Demonstrative results are always linked with the cross-country compilation or critical exploration and study across not-comparative, more multifaceted subjects. Permissive computing, with this new domain, is developing a stronger access and exploration into weak comprehension using absence variables. Its analyses have been established to go beyond the more managerial and easily reachable but very superficial areas.

3.6 Formula Used:

1. **Expected Frequency** $(\mathbf{E}) = \frac{\textbf{Total Sample Size}}{\textbf{Number of categories}}$
2. $\textbf{Chi} - \textbf{Square Value}(\chi 2) = \sum_{n=0}^{\infty} \frac{(O-E)2}{E}$
   Where **O =** Observed Frequency**, E=** Expected Frequency
3. **Degrees of Freedom (df)=** Number of categories−1

4. **Weighted Average** $= \frac{\sum(\text{Respondents} \times \text{Rank})}{\text{Total Respondents}}$

5. **Mean Square Deviation (MSD)** $= \frac{\sum(\text{Respondents} \times (\text{Rank} - \text{Weighted Average})2)}{\text{Total Respondents}}$

3.7 Ethical Considerations

Informed Consent was procured from all subjects, so they were made aware of the purpose of the study and their rights to the confidentiality. The data had been anonymized to ensure the proper concealment of the identities of the subjects. It followed ethical guidelines in dealing with a vulnerable population, such as woman.

4. Results and Discussion

4.1 Socio-Economic Characteristics of Respondents

Table 1: Socio-Demographic Profile of Respondents (n=300)

S. No.	Category	Frequency (f) or (O)	Percentage (%)	Expected (E)	$(O-E)^2$	$(O-E)^2/E$	Chi-Square Value	df-Value	α - Value	critical value
1.	**Age**									
	Less than 25	37	12.33	60	529	8.83	112.39	4	0.05	9.488
	25-30	46	15.33	60	196	3.27				
	31-40	132	44.00	60	5184	86.4				
	41-50	53	17.67	60	49	0.82				
	More than 50	32	10.67	60	784	13.07				
2.	**Religion**									
	Hindu	208	69.33	150	3364	22.43	44.86	1	0.05	3.841
	Muslim	92	30.67	150	3364	22.43				
3.	**Caste**									
	SC	71	23.67	75	16	0.213	12.052	3	0.05	7.815
	ST	97	32.33	75	484	6.453				
	OBC	55	18.33	75	400	5.333				
	GEN	77	25.67	75	4	0.053				
4.	**Educational Qualifications**									
	Illiterate	41	13.67	60	361	6.02	23.08	4	0.05	9.488
	Less than Primary Education	91	30.33	60	961	16.02				
	High School	53	17.67	60	49	0.82				
	Intermediate	57	19.00	60	9	0.15				
	More than Intermediate	58	19.37	60	4	0.07				
5.	**Yearly Family Income (Rs.)**									
	< 100,000	71	23.67	60	121	2.02	15.68	4	0.05	9.488
	100,001 - 200,000	81	27.00	60	441	7.35				
	200,001 - 300,000	53	17.67	60	49	0.82				
	300,001 - 400,000	46	15.33	60	196	3.27				
	> 400,000	49	16.33	60	121	2.02				
6.	**Spouse's Job**									
	Farmer	181	60.33	75	11236	149.81	203.32	3	0.05	7.815
	Government Employee	32	10.67	75	1849	24.65				
	Private Job	53	17.67	75	484	6.45				

S. No.	Category	Frequency (f) or (O)	Percentage (%)	Expected (E)	$(O-E)^2$	$(O-E)^2/E$	Chi-Square Value	df-Value	α - Value	critical value
	Own Business	34	11.33	75	1681	22.41				
7.	**Family Type**									
	Nuclear	161	53.67	150	121	0.807	1.614	1	0.05	3.841
	Joint	139	46.33	150	121	0.807				

The analysis reveals that most respondents were in the age group of 31-40 years and SC/ST caste, with a notable proportion coming from nuclear families. Educational levels varied, with many having only primary school education, highlighting the need for targeted training that can accommodate varying literacy levels.

4.2 Impact of e-Mobile Technology Training

Table 2. Garrett Ranking Test on the Impact of e-Mobile Technology Training

- **(1) Not at all**
- **(2) To a small extent**
- **(3) Neutral**
- **(4) To a moderate extent**
- **(5) To a great extent**

S.N.	Impact of e-Mobile Technology Training	1	2	3	4	5	No. of Respondents
1	To what extent has the e-mobile technology training helped you adopt new farming techniques?	35	41	55	76	93	300
	%	11.67	13.67	18.33	25.33	31.00	100
	Weighted Average	3.50					
	Mean Square Deviation (MSD)	1.84					

The ranking test in Table 2 assessed the impact of electronic mobile technology training on farmer adoption of innovative agricultural practices. Most respondents, 31 percent, found the training quite beneficial for the adoption of new farm methods, while 25.33 percent rated it somewhat helpful-18.33 percent were neutral; perhaps a smaller percentage at 13.67 percent and 11.67 percent found it minimally helpful and not helpful at all, respectively. The overall sense is that for many farmers, the training very much influenced the manner and degree to which they embraced modern farming techniques although some issues were encountered in their adoption. The variation in outcomes would suggest that the effectiveness of the training would vary considerably according to where the farmers are coming from, the resources they have at hand, and the context in which they operate. With a weighted mean rank of 3.50, we may infer that the effect of the training is moderate while a mean standard deviation of 1.84 gives a range of opinions on detailed analysis of the impact. This only backs the importance of custom-made content and diagnosed subsequent reinforcement to make the training better.

Table 3. Garrett Ranking Test on the Improvement in Crop Yields

- **(1) No improvement at all**
- **(2) Slight improvement**
- **(3) Neutral**
- **(4) Moderate improvement**
- **(5) Significant improvement**

S.N.	Impact of e-Mobile Technology Training	1	2	3	4	5	No. of Respondents
1	How much has the e-mobile technology training contributed to improving your crop yields?	41	37	49	85	88	300
	%	13.67	12.33	16.33	28.33	29.33	100
	Weighted Average	3.47					
	Mean Square Deviation (MSD)	1.90					

Table 3 lists the participants' reflections on how training on e-mobile technology has affected crop yields. A significant 29.33% reported a smart improvement in their yields, contributing significantly to the betterment of farm productivity. A further 28.33% saw good to some positive changes-signifying the technology factor in boosting the farm-revenues. At 16.33%, results were promising, not definitive, and rated agriculture as a poor industry for entry by EMTs; 12.33% rated results low; and the rest represented areas in the far negatives. These responses illustrate that while many farmers gained significantly from training programs, others had reasons for their lower gains, such as very different local conditions or the difficulty of engaging new practices. Over the board, a total of 57.66% reported good to heavy improvement, underlining the positive impetus of the training in increasing the farm's productivity. The weighted average of 3.47 indicates moderate improvement, whereas MSD, at 1.90, suggests a moderate deviation with responses, suggesting the need for more tailored solutions and assistance to support farmers whose cases are less significant.

Table 4. Garrett Ranking Test on the Utilization of Market Information

- **(1) No improvement**
- **(2) Slight improvement**
- **(3) Neutral**
- **(4) Moderate improvement**
- **(5) Significant improvement**

S.N.	Impact of e-Mobile Technology Training	1	2	3	4	5	No. of Respondents
1	How has the e-mobile technology training improved your ability to utilize market information (e.g., market prices, demand trends)?	32	64	86	78	40	300
	%	10.67	21.33	28.67	26.00	13.33	100
	Weighted Average	3.10					
	MSD	1.42					

In Table 4: Results from Garrett Rank Test: Impacts of e-Mobile Technology Training in Promoting the Farmers' Ability to Take Advantage of Market Information such as Prices and Demand Levels. Most respondents (28.67%) maintained a neutral stance, with the implication that while some farmers did not perceive any major change, the others observed a slight improvement in their decision making. Apart from this group, 21.33% experienced slight improvements, leaving 10.67% with no improvement, including a small fraction that did not derive any utility from the training as regard of providing market information. The quantitative results indicate that 26% of the respondents encountered a reasonable degree of improvement, while 13.33% could hold merit for the substantial improvements to suggest causality associated with positive impact on the adoption of market information. The weighted score of 3.10 shows a slight positive impact. The mean square deviation (MSD) of 1.42, then, seems to suggest that there is some measure of variation in response. Probable factors contributing to this variation include the individual factors (such as market type or getting some breakthrough in application). A more-specific training toward improving usability of market data could be necessary in the future.

Table 5. Garrett Ranking Test on the Access to Expert Advice

- **(1) No improvement in access**
- **(2) Slight improvement in access**
- **(3) Neutral**
- **(4) Moderate improvement in access**
- **(5) Significant improvement in access**

S.N.	Impact of e-Mobile Technology Training	1	2	3	4	5	No. of Respondents
1	How has the training improved your access to expert advice (e.g., agricultural specialists, extension services)?	42	64	51	66	77	300
	%	14.00	21.33	17.00	22.00	25.67	100
	Weighted Average	3.24					
	MSD	1.97					

Table 5 portrays how e-Mobile Technology training affected farmer access to expert advice. Greatest improvement in contacting professionals for advice on farming, pest control, and technical support was reported by a high proportion, 25.67% of the respondents. Another 22% reported a lesser improvement, indicating a positive standing for many farmers. However, 21.33% experienced very small changes and 14% felt no change at all in their ability to access expert advice-nothing really spreads like wildfire. You could occasionally find someone who supports the neutral side and did not, or could not, perceive outstanding achievements, perhaps due to completely inaccessible or dare to say engulfed areas, advisor availability, or technology and usage challenges. Although it has a favorable weighted-average of 3.24, MSD-1.97 was observed as showing immense diversification in the responses, revealing varying experiences. This diversity could be due to differences in such factors considered as type of technology, location, numerous-to-some scaled access to local experts.

Overall, the technology training provided for e-Mobile seems to have moderately to significantly increased the farm folks' access to professional advice in numerous cases, although also such instances are observed wherein the desired effects were still not truly attained. More dramatically speaking, suitable handholding options and then, subsequently, endowments if the farmers are to get brighter where their relationship with the experts is concerned can provide for the rest that needs to be turned into successful mutual benefit accretion.

Table 6. Garrett Ranking Test on the Economic Independence

- **(1) No contribution**
- **(2) Slight contribution**
- **(3) Neutral**
- **(4) Moderate contribution**
- **(5) Significant contribution**

S.N.	Impact of e-Mobile Technology Training	1	2	3	4	5	No. of Respondents
1	To what extent has the e-mobile technology training contributed to your economic independence?	35	53	86	56	70	300
	%	11.67	17.67	28.67	18.67	23.33	100
	Weighted Average	3.24					
	MSD	1.71					

Table 6 shows several ways in which the impact of e-mobile technology training exercises was felt by the farmers, either directly or indirectly. For 28.67% of respondents, this impact was considered not to have made significant economic change. There has emerged a fact that it was probably the case that the farmers did not see a significant line-up because of the program. On the other hand, it can also be said that 23.33% stated noticeable improvements in a positive way in terms of enhanced productivity, market information, consumer awareness, and other related practices, while 18.67% saw the average enhancement as positive along the scale. This creates an indication that the training brings about some degree of economic autonomy, which should be more definitely associated with bootstrapping, rather than only being only weakly dependent on some external factor. Four-fifths of the respondents saw very meagre benefits of e-mobile technology while the other half, 11.67% of total respondents, observed no effect. Although it could be said that this has worked for the very few, there obviously remained some others in dire need: all participants did not experience some real windfall from the training. The above-mentioned findings regarding the impact of enhancing economic independence imply that the weighted average of some 3.24 carries with it substantial positive outcomes, although the MSD of 1.71 exhibits some wide variation and its dependency upon additional factors such as location, application of skills, and individual peculiarities. To sum up, although the training on the e-Mobile technology really helped farmers step toward economic independence, there remains a certain extent of improvement to make better results of training which will enhance economic income of many beneficiaries. A more tailored training program to serve the different needs of farmers and additional support would certainly prove to be more helpful in the achievement of economic success for many beneficiaries.

Table 7. Garrett Ranking Test on the Improvement in Decision-Making

- **(1) No improvement**
- **(2) Slight improvement**
- **(3) Neutral**
- **(4) Moderate improvement**
- **(5) Significant improvement**

S.N.	Impact of e-Mobile Technology Training	1	2	3	4	5	No. of Respondents
1	How much has the e-mobile technology training enhanced your ability to make informed decisions regarding your farm's management?	49	34	45	71	101	300
	%	16.33	11.33	15.00	23.67	33.67	100
	Weighted Average	3.47					
	MSD	2.13					

In Table 7, Garrett Ranking Test analysis is presented on the impacts of e-mobile technology training on farmers' insights into farm management. The results seem to be for positive evaluation. Out of the total survey, 33.67% of the respondents felt that their decision-making abilities were significantly improved by the training. It implies that e-mobile technology has really facilitated many farmers to manage better their farms. As further sway for the initiative, 23.67% saw slight improvement from the training, thereby helping in achieving little positive impacts on their farm enterprises. Nonetheless, indifference shown by 15% of respondents signifies that there were no significant improvements for them, while some 11.33% felt that the training had little advantage. Again, it is only 16.33% that thinks there is little relevance corresponding with the training; however, this perception point could best be placed upon the integration between training goals and pre-existing factors rendering the training gains. The overall weighted average of 3.47 indicates a slightly greater than neutral positive impact, while the mean square deviation (MSD) of 2.13 shows robust response variations, the result possibly fuelled by differences in background knowledge, technological illiteracy, or agro-cultural contexts of the respondents. We could hence conclude that e-Mobile technology training has had an apparent dominant impact on enhancing decision-making in farm management where a high proportion of the respondent's indicated lots of improvement. Nonetheless, variability in responses suggests additional support and tailored training approaches could maximize the effect of the training for those who found less benefit.

Table 8. Garrett Ranking Test on the Overall Satisfaction with Training Impact

- **(1) Very dissatisfied**
- **(2) Dissatisfied**
- **(3) Neutral**
- **(4) Satisfied**
- **(5) Very satisfied**

S.N.	Impact of e-Mobile Technology Training	1	2	3	4	5	No. of Respondents
1	How satisfied are you with the overall impact of the e-mobile technology training on your agricultural practices and economic well-being?	33	44	81	83	59	300
	%	11.00	14.67	27.00	27.67	19.67	100
	Weighted Average	3.30					
	MSD	1.56					

The higher rate of neutral satisfaction indicates the training's benefits were not visible to some farmers. This can well be related to the results of MSD and A=1.56 shown in Table 8. Bugs still exist in the system, but solutions have been sought to respond to perceived weaknesses as well as positive outcomes. The reported burstiness in examining the responses was lower except for disapproval with farmers lowered by 14.67% and disappointment by another 11%. This is evident that the training was not very helpful to most of the others who had shared this satisfaction earlier.

These respondents were hardly dissatisfied with the training, while some thought of going to go works. However, disapproval says a lot about the tones of both respondents and customers struggling greatly. Even with training, their weaknesses fail, they find it only to be futile. This situation may be attributed to the reasons that practical fieldwork at hand exercises was a bit difficult, entirely dependent on areas not noted by complained farmers. Its overall outlook strummed a positive tune really; most farmers marked a smiley at the aftermath of the training on their farming practices and economic welfare. A closer look at the varied responses clearly screamed aloud that the irregular fallout seen in the method of training could otherwise be evenly turned into a pleasant outcome for all.

4.3 Barriers to Adoption

Table 9. Garrett Ranking Test on the Low Literacy Levels

- **(1) Not a barrier at all**
- **(2) A minor barrier**
- **(3) Neutral**
- **(4) A moderate barrier**
- **(5) A major barrier**

S.N.	Impact of e-Mobile Technology Training	1	2	3	4	5	No. of Respondents
1	How much do you think low literacy levels have hindered your ability to fully benefit from e-mobile technology training?	54	62	56	76	52	300
	%	18.00	20.67	18.67	25.33	17.33	100
	Weighted Average	3.03					
	MSD	1.87					

Results of the Garrett Ranking Test concerning the extent of low literacy limitations in employing e-Mobile Technology training are presented in Table 9. The data indicates that 25.33% of the respondents consider low literacy to be a mild barrier, while 20.67% consider it to be a minimal concern. At 18.67%, another group-maintained neutrality; this should suggest that low literacy is a factor, but it is still not the main factor. Conversely, only 18% of the respondents considered literacy to be an impediment, a fact that indicates low literacy did not prevent them from benefiting from the training. Nonetheless, at 17.33%, there are reasons for low literacy being perceived as a barrier. This group implied sources who need to orient themselves and some guidance for the use of technology and the resources attached to it. Given that the mean score equals 3.03, that only slightly favours points of opposition from neutral, low literacy is considerably considered of moderate concern. The mean-square deviation (MSD) of 1.87 simply shows a good spread from a neutral middle in the responses, indicating that farmers from widely varying perspectives must be involved. Literacy ensuring questions can, therefore, be seen to enhance engagement and improve farmer utilization. For the less literate farmers, technology support could likely bring faster improvement in trying to benefit through e-Mobile technology. Based on all these evidence, out-and-out remedies in recognition of literacy as an obstacle for certain farmers could be considered the next step. On the other hand, should it hence become a key indicator for identifying farmers on how they can use e-Mobile technology, a few important questions then come to mind-government ownership by extension should then make a centrepieces of e-Mobile Ownership efforts and awareness campaigns.

Table 10. Garrett Ranking Test on the Limited Access to Mobile Phones

- **(1) No barrier**
- **(2) A minor barrier**
- **(3) Neutral**
- **(4) A moderate barrier**
- **(5) A major barrier**

S.N.	Impact of e-Mobile Technology Training	1	2	3	4	5	No. of Respondents
1	To what extent has limited access to mobile phones been a barrier to adopting e-mobile technology for farming?	66	46	43	76	69	300
	%	22.00	15.33	14.33	25.33	23.00	100
	Weighted Average	3.12					
	MSD	2.19					

Table 10 presents the results of the Garrett Ranking Test analysis on the impact of limited use of mobile phones and the Internet on restrictions in e-Mobile technology adoption for farm production. Almost 25.3% of the respondents oriented limited mobile phone access as barrier of moderate intensity, followed by 23% who attributed it as being a major barrier. So, this is a big issue when observed partially. On the other hand, 22% of the respondents did not see limited access to mobiles as barriers, given they were benefiting from the internet

or having access to common devices. Moreover, 15% felt that it was only a likely minor drawback, while 14% opted for a neutral/non-committal posture. The weighted average score of 3.12 limps past the neutral midpoint, suggesting that this barrier is a key challenge for many and not so for some. The very wide range of variation, at 2.19, effectively underscores the spread of this challenge in disrupting diverse farmer groups. This would indicate that measures such as subsidies, community phones, and more extensive mobile network coverage could help to improve access for those who can then improve the way they implement e-Mobile. Ultimately, the limited availability of mobile phones is a significant barrier that affects farmers, but this barrier manifests in various ways for different farmers because of their ownership of mobile phones. Therefore, initiatives must be launched to increase mobile access through, for example, subsidies, community devices, and mobile networks to subvert this significant barrier. It will allow more farmers to benefit from technology.

Table 11. Garrett Ranking Test on the Cultural Barriers and Mobility

- **(1) Not a barrier at all**
- **(2) A minor barrier**
- **(3) Neutral**
- **(4) A moderate barrier**
- **(5) A major barrier**

S.N.	Impact of e-Mobile Technology Training	1	2	3	4	5	No. of Respondents
1	How much do cultural barriers (e.g., restrictions on women's mobility) affect your ability to access e-mobile technology training and resources?	76	56	68	45	55	300
	%	25.33	18.67	22.67	15.00	18.33	100
	Weighted Average	2.82					
	MSD	2.05					

Table 11 shows the calculated results by Garrett Ranking Scale concerning the impact of cultural obstacles on access to e-Mobile and mobility on female farmers. A total of 25.33% of the replies were indifferent, responding that cultural barriers had not affected them. For these respondents at least, gender norms and mobility issues are not and never were issues. On the other hand, 22.67% of the female respondents gave neutral responses to suggest that they did not know the possible impact, or recognized that impact was not a big deal. About 18.67% viewed the cultural barriers as only a minor hurdle, while 15% saw it as moderate. A considerable 18.33% felt it was high, implying gender norms and mobility restrictions present great challenge for some, especially in traditional areas. The weighted average was 2.82, just barely secure under the neutral category, suggesting culture as being generally barely mostly a hindrance. The mean square deviation showed that little of the variability of the data was recorded as 2.05, indicating a wide range already, saying, in essence, that how much cultural factor was significant would vary by gender, locality, and societal values. It is concluded that cultural barriers are more growing for some farmers, especially women, who are in traditional set-ups. An all-out effort to eradicate these barriers via holistic training, community actions, and policy interventions will help the progress. In summary, population densities not being a major challenge, cultural barriers do present a moderate challenge for a considerably large portion of farmers in which it weighs more heavily on women and very traditional communities. Overcoming any cultural barriers would improve access to e-Mobile technology training. More inclusive training, community mobilization, policy changes, or a mixture of all can help guarantee that these persons are able to participate much more freely and ideally profit as much as the rest.

Table 12. Garrett Ranking Test on the Access to Information

- **(1) Not a barrier at all**
- **(2) A minor barrier**
- **(3) Neutral**
- **(4) A moderate barrier**
- **(5) A major barrier**

S.N.	Impact of e-Mobile Technology Training	1	2	3	4	5	No. of Respondents
1	How much has the limited access to information (due to various barriers) prevented you from fully utilizing e-mobile technology for farming?	43	52	63	77	65	300
	%	14.33	17.33	21.00	25.67	21.67	100
	Weighted Average	3.23					
	MSD	1.82					

Table 12 reveals the result of the Garrett Rating Scale in how information access barriers hamper farmers from fully employing e-Mobile for farming. According to feedback from 25.67% of the respondents, the information access barrier is a moderate obstacle, while 21.67% considered information access as big deal-meaning a significant chunk of farmers is kept from knowing about the necessary knowledge of how they could use technology to the maximum effect. Conversely, 21% of the respondents retained neutral views, which implies that they were little concerned about the issue and, or they were able to keep options in significantly low in bringing data to use. Another 17.33% believed that limited access to information was largely present but not very effective, and 14.33% confirmed that there were no obstacles towards information access at all, perhaps by suggesting that the locality was not a concern in this issue in some of the areas. The weighted average was 3.23, just above neutral, implying information access being a substantial barrier for the majority to adoption of technology. Most squares deviation (MSD) resulted from a value of approximately 1.82, implying that there is a moderate variability in responses showing how variously this issue is felt among HLS and LPZ group. Any measure to establish better e-Mobile technology training could make further strides if they were to tackle any one of the information barriers and thereby increase the general adoption and use of e-Mobile. It was quite clear that a good number of farmers reported limited access to information as an emerging or significant barrier. To enhance the effectiveness of training in e-Mobile technology, and focusing attention on barriers to information access, addressing this area essentially sums up as improving resource availability, communication channels, or local content, to ensure or cater to a wider audience in the full engagement and implementation of the technology.

Table 13. Garrett Ranking Test on the Infrastructure and Mobile Network

- **(1) No impact**
- **(2) Minor impact**
- **(3) Neutral**
- **(4) Moderate impact**
- **(5) Major impact**

S.N.	Impact of e-Mobile Technology Training	1	2	3	4	5	No. of Respondents
1	How much does the lack of mobile infrastructure (e.g., weak mobile network coverage, slow internet) impact your ability to use e-mobile technology for farming?	47	49	52	69	83	300
	%	15.67	16.33	17.33	23.00	27.67	100
	Weighted Average	3.31					
	MSD	2.04					

The Garrett Ranking Test was carried out to identify mobile infrastructure problems such as loss of network connectivity and lagging internet connection that were believed to have hindered the full exploitation of e-Mobile technology by farmers. A high number of respondents, that is, 27.67%, supported the belief that the infrastructure was a major obstacle in the exploitation of e-Market-related help for the felders. Meanwhile, 23% believed that the infrastructure problem amounts to a significant constraint, thereby hitting quite a good number of farmers but not to a very high degree. In contrast, 17.33% had a neutral opinion about the whole issue, suggesting that it was not really making a difference in their lives even if they had to deal with it seriously at times. Meanwhile, 16.33% were somewhat affected, and 15.67% got by gene. The overall mean was 3.31; hence, a little above 0 on the scale senses the general implication that these types of infrastructure issues might pose a moderate od unforeseeable problem for many farmers. With a mean square deviation of 2.04, Jenkins

or Hidden Variables" possibly account for the notable variation of responses, such as the extent of Earth networks being made readily available. By and large, the mere fact of having inadequate mobile infrastructure coalesces into major obstacle and is extremely obstructive to potential benefits that farmers could be amassing from the various facets of e-Mobile intervention. It is certain that the enhancement of mobile infrastructure across these various aspects—better internet service, making areas more conducive for better telecommunication networks—can play a significant role in further impact for e-Mobile training. Lack of mobile infrastructure is the biggest obstacle for many farmers, with a significant portion of respondents indicating it as highly or somewhat severe to utilizing e-Mobile technology. It can contribute to positive implementation and benefits of e-Mobile training when infrastructure challenges like the coverage range of mobile networks and speed of Internet in closely related rural areas are not addressed.

Table 14. Garrett Ranking Test on the Literacy Improvement Programs

- **(1) Not important at all**
- **(2) Slightly important**
- **(3) Neutral**
- **(4) Important**
- **(5) Very important**

S.N.	Impact of e-Mobile Technology Training	1	2	3	4	5	No. of Respondents
1	How important do you think literacy improvement programs are in overcoming barriers to adopting e-mobile technology?	76	83	34	54	53	300
	%	25.33	27.67	11.33	18.00	17.67	100
	Weighted Average	2.75					
	MSD	2.11					

Table 14 shows the Garrett ranking of how important literacy-improving initiatives are in clearing the way for electronic platform (e-Mobile) adoption. In the survey, 27.67% regarded such programs as quite important, while 25.33% thought literacy programs were very unimportant, thus marking how contentious the argument for literacy programs really was. However, 18% voiced concern about the importance of literacy programs, while 17.67% solidly believed that they were very important, thus at least a part of respondents seemed to agree with literacy as being pivotal for any improvement of the use of the technology. The average weight being 2.75 so very slightly below the line of neutrality is evidence for the fact that most farmers did not consider literacy programs as key and effective solutions. The MSD of 2.11 tells one that there is some deviation: some see literacy as a major player while others are more concerned with immediate issues such as infrastructure and device accessibility. In conclusion, while some see that literacy programs would be beneficial, most farmers see huge barriers like infrastructure and device availability that make the successful adoption of technology more important. In conclusion, a few of the respondents considered literacy programs something that might help overcome adoption barriers and had explicitly recognized their vital role; a highly substantial number of farmers did not think that literacy programs really matter in the successful adoption of the e-Mobile technology. This might hint that solving rather another kind of problems, such as problems of infrastructure, availability of devices, existing training (on technology use), seems to be more urgent for a group of farmers. Literacy programs for these cases might be an initial but highly important key step in improving technology adoption, especially for those with low levels of literacy.

5. Conclusion and Recommendations

5.1 Conclusion

The study demonstrates that e-mobile technology training can empower women farmers in Uttar Pradesh by enhancing their agricultural knowledge, improving productivity, and promoting economic independence. However, there are several barriers to full adoption, including literacy challenges and limited infrastructure.

Most of the sample subjects were 31-40 years of age, belonged to SC/ST backgrounds, and were from nuclear families, with some education out to primary school. It highlights the very basic necessity of highly customized trainings for literacy levels.

The research has assessed how effective the e-mobile technology trainings have been for enhancing farmers' adoption of new farming practices. The highest percentage, standing at 31%, found these trainings to be highly helpful, with significant variations in the responses provided. While some farmers noted substantial improvements in terms of crop yields and farm productivity, some others had experienced only marginal or no benefits at all because of certain reasons like local conditions and resistance of some crop species to certain practices.

Transferability of ideas and information seemed to be greatly enhanced by the training to a large extent, adding to the farmers' ability to adopt new farming technologies. However, application of idea-sharing and knowledge transfer by individual farmers is an issue. In addition, some were able to stand on their economic feet to some degree; yet differences were seen in the levels of success within the implementation of the program.
While most other informants reported positive impacts on farming and economic well-being after Completion of training, what appears more significant is the variety of responses, indicating the need for further tailored training with sustained attention for mutual objectives and challenges.
The findings suggest that women who underwent e-mobile technology training showed a marked improvement in their agricultural practices. These farmers were more likely to adopt new farming techniques, utilize market information, and improve crop yields. Training in mobile technology not only enhanced productivity but also contributed to economic independence, as women had better access to market prices and expert advice.
The analysis of various barriers to e-Mobile Technology adoption reveals multiple factors affecting farmers' ability to fully benefit from the training.

1. **Low Literacy**: About 25.33% of respondents saw low literacy as a moderate barrier, with 17.33% considering it the biggest hindrance. However, a significant portion (18%) did not view literacy as a barrier at all. The moderate variability (MSD of 1.87) suggests that literacy's impact on training varies based on individual farmers' backgrounds and access to resources. Tailored solutions addressing literacy could improve the adoption rate.
2. **Limited Access to Mobile Phones**: For many farmers, limited mobile phone access was a significant barrier, with 23% rating it as a major hindrance. However, 22% did not find it to be a constraint. The variability in responses (MSD of 2.19) suggests that the impact of mobile access varies depending on factors such as phone ownership and network coverage. Solutions like subsidies or shared community devices could help alleviate this issue.
3. **Cultural Barriers**: Gender norms and mobility restrictions were found to be a minor-to-moderate hindrance for some farmers, particularly women in traditional communities. A portion of respondents (25.33%) felt that cultural norms did not affect their access, but 18.33% considered them a significant barrier. With an MSD of 2.05, the responses highlighted that overcoming these cultural barriers, particularly through inclusive training and policy changes, would improve access for all farmers.
4. **Limited Information Access**: Around 25.67% of farmers considered limited access to information as a moderate barrier, while 21.67% saw it as a major hindrance. This issue can be addressed by improving communication channels and providing local, relevant content. The weighted average of 3.23 and MSD of 1.82 suggest that while many farmers face this barrier, its severity varies.
5. **Mobile Infrastructure Issues**: Weak mobile network coverage and slow internet speed were identified as major barriers by 27.67% of respondents, with an overall weighted average of 3.31. Infrastructure concerns were particularly impactful for farmers in rural areas, with geographic and municipal factors influencing access to reliable networks.
6. **Importance of Literacy Improvement Programs**: While a significant portion of farmers (25.33%) did not see literacy programs as crucial, 18% rated them as important. The weighted average score of 2.75 and MSD of 2.11 suggest that, while some farmers recognize the importance of literacy programs in overcoming adoption barriers, others consider infrastructure and device access to be more pressing issues.

To conclude, the effectiveness of e-Mobile technology training is affected by barriers such as low literacy, limited infrastructure, and poor access to information; however, solutions like infrastructure development and access to training devices should alleviate this situation significantly.
Yet, as the hurdles preventing the adoption of e-training are unpacked, others seem to prop up in its way. Low literacy rates, limited access to cell phones, and cultural linings that oppress the mobility of women are great barriers. This obstacle must be attacked on many fronts through literacy programs, enhanced mobile infrastructure, and competing with training for women with limited access.

5.2 Recommendations

1. **Mobile Literacy Programs**: Introducing mobile literacy programs for women farmers to overcome educational barriers.
2. **Infrastructure Development**: Improving mobile network coverage in rural areas to ensure all farmers have equal access to technology.
3. **Targeted Training**: Offering culturally sensitive, gender-specific training programs that address the unique needs of women farmers.
4. **Policy Interventions**: Government policies should focus on reducing gender-based disparities in agriculture by promoting women's access to technology and resources.

5.3 Scope and Limitations

This research was conducted among women farmers in five districts of Uttar Pradesh: Azamgarh, Mirzapur, Sonbhadra, Ballia, and Gorakhpur. These districts were selected for their agricultural importance and the presence of women farmers who could potentially benefit from e-mobile technology training. A total of 300 women famers were recruited as the sample, 60 from each district. While this study can provide insights into the condition of farm producers in UP, its findings might not hold true for other regions within India because of the specific geographical and socio-economic parameters of Uttar Pradesh. The research opted to call on survey data and interviews (which could be tainted by self-reporting biases and inaccuracies) to support the very ideas that anybody would have by dwelling further on these issues. Beyond the use of e-mobile devices, the study in connivance with its massive implications did not consider other issues concerning climate change, market access, or the role of special materials used on the farm alongside other such products that ought to go together to influence productivity.

6. Declaration of Interest

We declare the following potential conflicts of interest with regard to the research paper for publication:

- **Financial Interests:** None to declare.
- **Non-Financial Interests:** The authors have no personal or professional affiliations that could be perceived as having influenced the research conducted or the conclusions drawn in this study.
- **Research Funding:** This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.
- **Conflict of Commitment:** The authors confirm that there are no agreements with any entity that could influence the research integrity or the publication of the paper.
- **Personal Relationships and Competing Interests:** The authors declare that there are no personal relationships or competing interests that could have influenced the work reported in this paper.

We confirm that the manuscript represents original work and has not been published previously, nor is it currently under consideration for publication elsewhere.

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